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North Central South Dakota Farm Record Summary 1947 Fifth Annual Report

C. R. Hoglund

~~Agriculture~~

1947

FIFTH ANNUAL REPORT

NORTH CENTRAL SOUTH DAKOTA

FARM RECORD SUMMARY

Agricultural Economics Pamphlet No. 26

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55 FARMS

Agricultural Experiment Station
in cooperation with
Agricultural Extension Service
South Dakota State College
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FIFTH ANNUAL REPORT OF THE NORTH CENTRAL SOUTH DAKOTA FARM RECORD PROJECT, 1947

Prepared by C. R. Hoglund

Introduction

This is the fifth annual report of the farm record study started by the Experiment Station in 1943. Farm record cooperators are located in two areas of the state, namely, the North Central and Southeastern Areas. A summary of the results of the Southeastern area is included in a separate pamphlet.

The analysis of the farm record data and the preparation of the report were carried out under the direction of C. R. Hoglund of the Experiment Station. C. A. Hustrulid, Farm Management Fieldman, made most of the field calls on the cooperating farmers during the year and assisted in the preparation of the material for this report. Arthur Anderson and Lyle Bender, Extension Specialists, assisted in the organization and education work in the field. The following is a list of counties covered in the study, and the county agents who actively cooperated in the project.

County	Agent	Number of records
Beadle	Gale Peppers	3
Faulk	Konrad Stummeier & Douglas Wallace	13
Hand	Laverne Kortan	16
Hyde	Kenneth J. Wanless	6
Potter	Rayburn Butrum	7
Sully	John F. Neu	10

The farm record cooperators were visited one or two times during the year, and again at the end of the year when the records were closed. The cooperators kept records which included cash receipts and expenses, beginning and end of year inventories of feed and seed, machinery and equipment, buildings and land and livestock, crop record, livestock record and a record of farm produce and fuel used by the household. Additional information was obtained on crop and livestock practices used, crop varieties, feed fed to productive livestock, and on family and hired labor.

Operator's labor earnings have been calculated on a full owner basis in order to more nearly compare all farms on an equal basis. However, each cooperator received an earnings statement on the basis of his actual tenure situation. Summary of farm inventories and earnings are prepared as though the operator was a full owner except for Table 18 in which a comparison is made between owners, part-owners, and tenants for earnings and various farm organization and management efficiency factors.

Earnings for most of the cooperating farmers were unusually high during 1947. Hail damage and prairie fires in some portions of the area greatly reduced crop yields and income on some farms.

Increased operating expenses during 1947 were more than offset by increases in prices farmers received for livestock and crops. Most farmers will be faced with continued high operating costs in the future. These high operating costs will probably continue high for some time after farm prices drop. Careful planning of future farm operations will help farmers to meet lower prices.

Climatic Conditions

Except for scattered hail damage, climatic conditions were favorable for small grain production during 1947. Adequate rainfall during the growing season and reasonably cool weather up to harvest helped to offset a late spring. Corn yields were below average due to lack of rainfall in July and August and early frost. An early November snow prevented the picking of much of the corn until spring. Pheasants reduced yields on many farms.

Table 1. Monthly and Annual Precipitation and Departure from Normal, Faulkton, Gettysburg, and Miller Weather Stations, 1947

Month	Faulkton		Gettysburg		Miller	
	1947	Departure	1947	Departure	1947	Departure
January	0.41	+0.05	0.37	+0.25	0.58	+0.14
February	0.39	-0.17	0.10	-0.33	0.30	-0.11
March	0.87	-0.28	0.59	-0.39	0.67	-0.20
April	3.82	+1.47	1.86	+0.29	2.69	+0.76
May	0.79	-2.02	0.89	-1.27	0.80	-2.04
June	6.28	+2.86	4.64	+1.28	6.61	+3.26
July	0.41	-1.80	0.34	-1.61	0.21	-2.08
August	0.89	-1.40	0.32	-1.02	1.26	-0.94
September	1.63	+0.18	1.31	+0.17	1.23	-0.11
October	1.45	+0.30	1.89	+1.30	2.89	+1.78
November	2.09	+1.45	1.34	+0.95	2.56	+2.03
December	0.12	-0.27	T	-0.30	0.07	-0.31
1947 Total	19.47	+0.57	13.69	-0.88	19.87	+2.18
1946 Total	24.53	+9.58	22.00	+7.89	24.03	+6.96
1945 Total	17.77	-0.73	16.21	+2.10	18.04	+0.97
1944 Total	25.93	+7.38	18.78	+4.67	24.91	+7.84
1943 Total	17.33	-1.86	15.17	-1.14	20.29	+2.54

T - Trace

Definition of Terms and Measures Used

1. Operator's labor earnings - is the measure of financial success used in this report. It is a measure of the relative financial success of a farmer and represents the returns for his year's work (including family living from the farm) above all farm expenses, and a deduction for the value of unpaid family labor an interest charge for the use of farm capital.

2. Productive man work units - is a measure of size of business used in this report. A work unit represents the amount of work that a farm worker can do in a 10-hour day working at average efficiency. For example, it requires about 10 hours of man labor to produce an acre of corn and 130 hours to care for a milk cow for a year. Thus an acre of corn would represent 1 work unit and a milk cow 13 work units.

The work unit standards used in this report are shown in the following table:

Crops			Livestock		
Item	Per	No. of Work Units	Item	Per	No. of Work Units
Corn, grain	acre	.9	Dual purpose cows	cow	10.0
Corn, hogged off	"	.6	Milk cows	cow	13.0
Corn, and cane silage	"	1.4	Other dairy cattle	animal unit	4.0
Corn and cane fodder	"	.9	Beef cows	cow	3.0
Sorghum	"	.9	Other beef cattle	animal unit	3.0
Potatoes	"	4.0	Bulls	head	3.0
Small grain	"	.5	Litter	litter	4.0
Alfalfa hay	"	.8	Other hogs	head	.5
Other tame hay	"	.7	Ewes	head	.5
Wild hay	"	.4	Other sheep	head	.2
Annual pasture	"	.3	Hens	100	20.0
			Chickens raised	100	4.0

3. Work units per worker - is a measure of the efficient use of labor on a farm.

4. Livestock increase - is the value of gross livestock sales less purchases and plus or minus changes in inventory values of livestock from the beginning to the end of the year.

5. Crop yield index - is a comparison of the yield per acre of all crops on a given farm or group of farms with the average yield of all crops for the entire group of farms studied. For example, a farm with a crop yield index of 105 means that the average yield for this farm is 5 percent greater than the average.

6. Crop selection index - is a measure of the success of a farmer or group of farmers in choosing high value crops. Crops were rated as A, B, C, and D. All of the acres in A crops, one half of acres in B crops, and one-fourth of acres in C crops were used in calculating the percent of cropland in high return crops. The group average was then considered 100 with variations compared to this average. The following crops were rated as A crops: alfalfa, wheat, oats, and barley. The following were rated as B crops: corn grain, corn and cane forage and flax. C crops were sorghum for grain, millet, rye, sweet clover, mixed legume, and all annual hay and pasture. All other crops were rated as D.

7. Livestock returns per $100 feed fed - is a measure of the efficiency in converting feed into livestock products. It is obtained by dividing the value of the net livestock increase by the value of feed fed to all productive livestock during the year. This figure is multiplied by 100.

8. Part-owner - is a farmer or rancher who owns part of the land he operates and rents the rest.

Table 2. Summary of Farm Inventories, 1947*

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
Beginning of Year				
Horses and mules	$_____	$ 158	$ 213	$ 191
Productive livestock (total)	_____	11,111	17,337	8,923
Cattle	_____	7,956	12,588	6,130
Hogs	_____	2,355	4,356	1,664
Sheep	_____	642	224	955
Poultry	_____	158	180	174
Feed and seed	_____	9,100	14,634	4,171
Mach. and equipment (total)	_____	4,021	5,315	3,133
Power machinery	_____	1,844	2,377	1,527
Crop and gen. mach.	_____	1,833	2,636	1,285
Livestock equipment	_____	344	302	321
Improvements (farm)**	_____	3,658	4,348	3,598
Land	_____	13,893	17,513	11,503
Total farm capital	$_____	$41,942	$59,371	$31,520
End of Year				
Horses and mules	$_____	$ 199	$ 189	$ 168
Productive livestock (total)	_____	11,398	17,159	8,431
Cattle	_____	8,437	13,048	5,451
Hogs	_____	2,013	3,462	1,709
Sheep	_____	779	480	1,021
Poultry	_____	169	169	250
Feed and seed	_____	9,005	16,410	3,331
Mach. and equipment (total)	_____	5,437	8,060	4,128
Power machinery	_____	2,535	3,732	1,925
Crop and gen. machinery	_____	2,512	3,996	1,826
Livestock equipment	_____	389	332	377
Improvements (farm)**	_____	4,204	5,549	3,699
Land	_____	13,893	17,513	11,503
Total farm capital	_____	$44,136	$64,880	$31,260

* These include value of both owner's and operator's share of farm capital investment.

** Does not include value of dwelling.

Table 3. Crop Acreage Summary, 1947

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
Corn for grain	———	95.0	135.8	49.2
Sorghum grain	———	.2	----	----
Sorghum forage	———	13.0	11.8	21.0
Corn and cane silage	———	4.6	16.8	.8
Total Row Crops		112.8	164.4	71.0
Wheat	———	132.9	216.3	45.0
Oats	———	71.8	83.8	58.4
Barley	———	55.9	96.7	22.3
Rye Grain	———	17.1	19.8	7.7
Flax	———	19.1	25.4	4.9
Miscellaneous		10.6	7.3	21.7
Total Small Grain		307.4	449.3	160.0
Alfalfa hay	———	11.1	26.3	3.9
Other tame hay		3.3	----	6.7
Total Tame Hay		14.4	26.3	10.6
Rotation Pasture		4.4	7.4	9.5
Total Tame Hay & Past.		18.8	33.7	20.1
Idle and Fallow		12.6	1.7	6.8
Total Tillable Land		451.6	649.1	257.9
Native hay	———	228.2	215.7	294.3
Native pasture	———	430.7	601.2	407.7
Farmsteads, roads, etc.		41.6	49.8	27.6
Total Acres Operated		1152.1	1515.8	987.5
% of farm in cropland	———	44.4	49.0	34.5
% of cropland in row crops	———	27.9	26.4	33.4
% of cropland in sm. grain	———	65.3	69.1	58.1
% of cropland in hay & past.	———	3.6	4.3	5.7

Table 4. Crop Yield Summary, 1947

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
Corn for grain	———	12.5	13.7	10.5
Wheat	———	15.8	16.4	16.4
Oats	———	33.4	46.6	25.4
Barley	———	19.1	25.0	13.5
Rye	———	9.7	9.7	15.0
Flax	———	7.0	7.8	6.3
Alfalfa hay	———	1.5	1.2	1.5
Other tame hay	———	.9	----	.9
Corn & Sorg. forage	———	1.9	1.8	3.4
Silage	———	9.8	15.0	6.5
Native hay	———	.8	.8	.8

Table 5. Livestock Summary, 1947

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
Horses	____	3.8	3.6	4.8
Beef cows	____	32.3	40.3	23.0
Beef heifers	____	17.1	12.8	3.1
Other beef cattle	____	25.7	34.2	20.4
Steers	____	8.1	16.7	1.6
Milk cows	____	5.1	4.5	6.7
Dairy heifers	____	.7	.5	.7
Other dairy cattle	____	1.3	1.5	2.9
Bulls	____	2.0	4.8	1.3
Ewes	____	34.7	22.0	55.3
Other sheep	____	9.0	.4	11.5
Litters of pigs	____	10.5	15.4	9.9
Hens and pullets	____	151.6	156.7	182.6
Total units prod. livestock*	____	71.9	94.0	57.4

* A unit of productive livestock is equal to one mature cow, 2 yearlings, 7 sheep, 14 lambs, 5 sows, 10 pigs and 100 hens.

Table 6. Farm Produce and Fuel Furnished to Household, 1947

Item	Quantity				Value			
	Your Farm	Average of 55 farms	12 most profit. farms	12 least profit. farms	Your Farm	Average of 55 farms	12 most profit. farms	12 least profit. farms
Whole milk, qts.	____	959	1265	1160	$____	$95.95	$126.53	$116.04
Cream, qts.	____	167	130	194	____	83.72	64.75	96.88
Farm made butter, lbs.	____	113	102	88	____	84.56	76.13	66.19
Eggs, doz.	____	170	232	134	____	61.26	83.75	48.00
Poultry, lbs.	____	275	267	386	____	57.65	56.14	80.91
Cattle, lbs.	____	396	663	327	____	79.09	132.50	65.42
Hogs, lbs.	____	481	403	472	____	115.35	96.70	113.30
Sheep, lbs.	____	18	---	---	____	3.78	-----	-----
Potatoes, bu.	____	10	8	7	____	17.44	14.25	11.70
Vegetables					____	25.07	28.33	19.58
Fruits					____	1.40	2.08	.42
Farm Fuel					____	1.78	-----	5.00
Total value					$____	$627.05	$681.16	$623.44

Table 7. Summary of Farm Earnings, 1947

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
FARM RECEIPTS				
Hogs	$____	$ 3,647	$ 7,090	$ 2,326
Cattle	____	5,146	11,277	3,664
Dairy Products	____	319	262	619
Eggs	____	347	347	411
Poultry (includes turkeys)	____	126	69	233
Sheep and wool	____	382	224	228
Horses	____	11	9	23
Crops	____	8,049	15,056	2,123
Machinery & equipment	____	144	349	163
Farm program payments	____	90	136	37
Income from work off farm	____	109	215	47
Miscellaneous	____	138	236	82
(1) TOTAL FARM SALES	$____	$18,508	$35,270	$ 9,956
(2) Increase in inventories	____	2,194	5,509	---
(3) Family living from farm	____	624	670	616
(4) TOTAL FARM RECEIPTS (sum 1-3)	$____	$21,326	$41,449	$10,572
FARM EXPENSES				
Auto (farm share)	$____	$ 257	$ 299	$ 233
Power, mach. & equip. (upkeep)	____	1,523	2,237	960
Power, mach. & equip. (new)	____	2,268	4,256	1,453
Farm improvements (upkeep)	____	499	771	368
Farm improvements (new)	____	498	1,208	323
Hired labor	____	707	1,388	190
Crop expenses	____	1,064	1,807	527
Feed bought	____	717	1,234	855
Livestock bought	____	1,373	3,725	489
Other livestock expenses	____	207	329	185
Taxes	____	390	579	278
Insurance	____	99	150	78
Miscellaneous farm expenses	____	49	51	27
(5) TOTAL FARM PURCHASES	$____	$ 9,651	$18,034	$ 5,956
(6) Decrease in inventories	____	---	---	260
(7) Board furnished hired labor	____	126	245	60
(8) Unpaid family labor ($150 per mo.)	____	688	809	675
(9) Interest on farm capital (5%)	____	2,140	3,106	1,521
(10) TOTAL FARM EXPENSES (sum 5-9)	$____	$12,605	$22,194	$ 8,472
(11) OPERATOR'S LABOR EARNINGS (4)-(10)	$____	$ 8,721	$19,255	$ 2,100
(12) RETURNS TO CAPITAL & FAMILY LABOR (sum 8+9+11)	$____	$11,367	$22,338	$ 4,296

WHY FARM EARNINGS VARY

Operator's labor earnings reached all time high during 1947 for the group of farm record cooperators in the North Central Area of the state. With the exception of farms suffering hail damage and fire, crop and livestock production was continued at a high level during 1947. Operator's labor earnings on this group of farms ranged from a few with over $20,000 to some actually showing a loss. Most of the extremely low earnings were associated with inadequate size of farm, low crop yields and inefficient livestock production. Six of the more important management factors affecting farm earnings will be discussed here.

Size of Business Important

Size of business as measured in terms of total work units was found to be one of the most important factors affecting earnings. Operator's labor earnings averaged $4,428 on farms with small sized businesses to over $12,000 on the farms with the largest size of business. The size of a farm business can be increased by farming more land and by keeping more livestock. Many farmers in the North Central area have added some additional land to their operating units in recent years. Some farms in this area are still too small to provide a good level of farm living. Extremely favorable climatic conditions in recent years cannot be expected to continue indefinitely. Farmers need to consider adjustments in their farming operations to meet more normal environmental conditions. The relationship of size of business to farm earnings is shown in Table 8.

Table 8. Relation of Size of Business to Farm Earnings

Number of work units		No. of	Average operator's
Range	Average	farms	labor earnings
Under 500	423	13	$4,428
500 - 799	628	27	$6,830
800 & over	980	15	$12,696

Plan Use of Labor

Efficient use of labor is dependent on careful planning and the use of the most economical methods in producing crops and livestock. The amount of work accomplished per worker varied from some as low as 200 to a few as high as 500 or more work units (days of productive work) per year. Efficient labor utilization is usually associated with high earnings. The group of farmers averaging 475 or more work units per worker had twice as high earning as did the group of farmers averaging less than 300 work units per worker (Table 9). Labor efficiency can be increased by using labor saving practices and machinery, by eliminating some labor peaks and by enlarging the size of business. Careful planning of field and chore work and the possible elimination of unessential tasks will increase labor efficiency without lowering production.

Table 9. Relation Amount of Work Performed Per Worker to Farm Earnings

Number of work units		No. of	Average operator's
Range	Average	farms	labor earnings
Under 300	258	14	$4,921
300 - 474	381	27	$8,459
475 & over	551	14	$9,651

High Crop Yields Reduce Costs

High crop yields contributed greatly to earnings during 1947. Earnings were over two and a half times as high on the farms with crop yields 25 percent above average compared to earnings on farms on which yields were 85 percent or less than average. High crop yields are dependent on the use of adapted seed varieties and recommended cropping practices, including a regular rotation. The use of alfalfa or other recommended legumes helps boost yields. The relation of crop yields to earnings is shown in table 10.

Table 10. Relation of Crop Yields to Farm Earnings

Percent crop yields were of average of all 55 farms		No. of farms	Average operator's labor earnings
Range	Average		
Under 85	67	11	$ 4,076
85 - 124	104	30	$ 8,050
125 & over	143	12	$11,950

Crop Selection Needs Study

Economical livestock production and high earnings are dependent on the kind of crops a farmer produces. It is important that farmers grow the feed crops that produce the greatest quantity of nutrients per acre. The selection of crops that bring high cash returns per acre has been especially important in recent years. The choice of crops should include alfalfa and other legumes which maintain soil fertility and provide high protein feed.

Table 11. Relation of Crop Selection to Farm Earnings

Percent selection of high return crops were of average of all 55 farms		No. of farms	Average operator's labor earnings
Range	Average		
Under 93	73	9	$3,952
93 - 109	102	32	$9.932
110 & over	117	14	$5,644

Stress More Roughage Consuming Livestock

The kinds and numbers of productive livestock kept on a farm has an important effect on farm earnings. The proportion of the farm in grassland, the lay of land and the managerial ability of the operator should determine the kinds and amounts of livestock kept. In this area greater stress needs to be placed on the production of roughage consuming livestock. The return of more normal (less rainfall) climatic conditions and less favorable cash grain prices will undoubtedly make beef cattle and sheep production relatively more profitable.

Table 12. Relation of Amount of Productive Livestock to Farm Earnings

Total animal units		No. of farms	Average operator's labor earnings
Range	Average		
Under 35	25	12	$ 4,974
35 - 85	59	29	$ 7,537
85 & over	139	14	$11,010

Increase Livestock Feeding Efficiency

Greatly increased feed prices plus the uncertainty of future livestock prices makes it desirable for farmers to use feed efficiently. Some farmers actually lost money on the livestock kept while others more than doubled the value of feed during 1947. High production per unit, sanitation, balanced rations, adequate pastures, the right kind of shelter plus good management are all important factors contributing to efficient livestock production. The most efficient livestock producers had earnings that were almost twice as high as the least efficient producers as shown in the following table.

Table 13. Relation of Livestock Feeding Efficiency to Farm Earnings

Livestock returns per $100 feed fed to productive livestock	No. of Farms	Average operator's labor earnings
Under $110	84	$ 6,093
$110 - $174	136	$ 6,285
$175 & over	271	$11,556

RELATIONSHIP OF EFFICIENCY IN FARMING TO EARNINGS

Farmers who excel in many efficiency factors usually have higher earnings than do those who rank low in most or all of these factors. Some farmers show good management efficiency and high returns in some parts of the farm business which are offset by poor results in other parts of the business. The farmers who excelled in five or six management factors received earnings that were about five times as great as for the farmers who were above average in none or only one factor. An unusually large proportion of the operators were low in management efficiency. Table 14 illustrates the importance of an efficiently organized and operated farm business.

Table 14. Relation of Numbers of Factors Above Average to Farm Earnings

No. of factors above average	No. of Farms	Your Farm	Average operator's labor earnings
0 - 1	14	$_____	$ 4,326
2	11	$_____	$ 5,479
3	11	$_____	$ 8,215
4	11	$_____	$10,336
5 - 6	8	$_____	$19,158

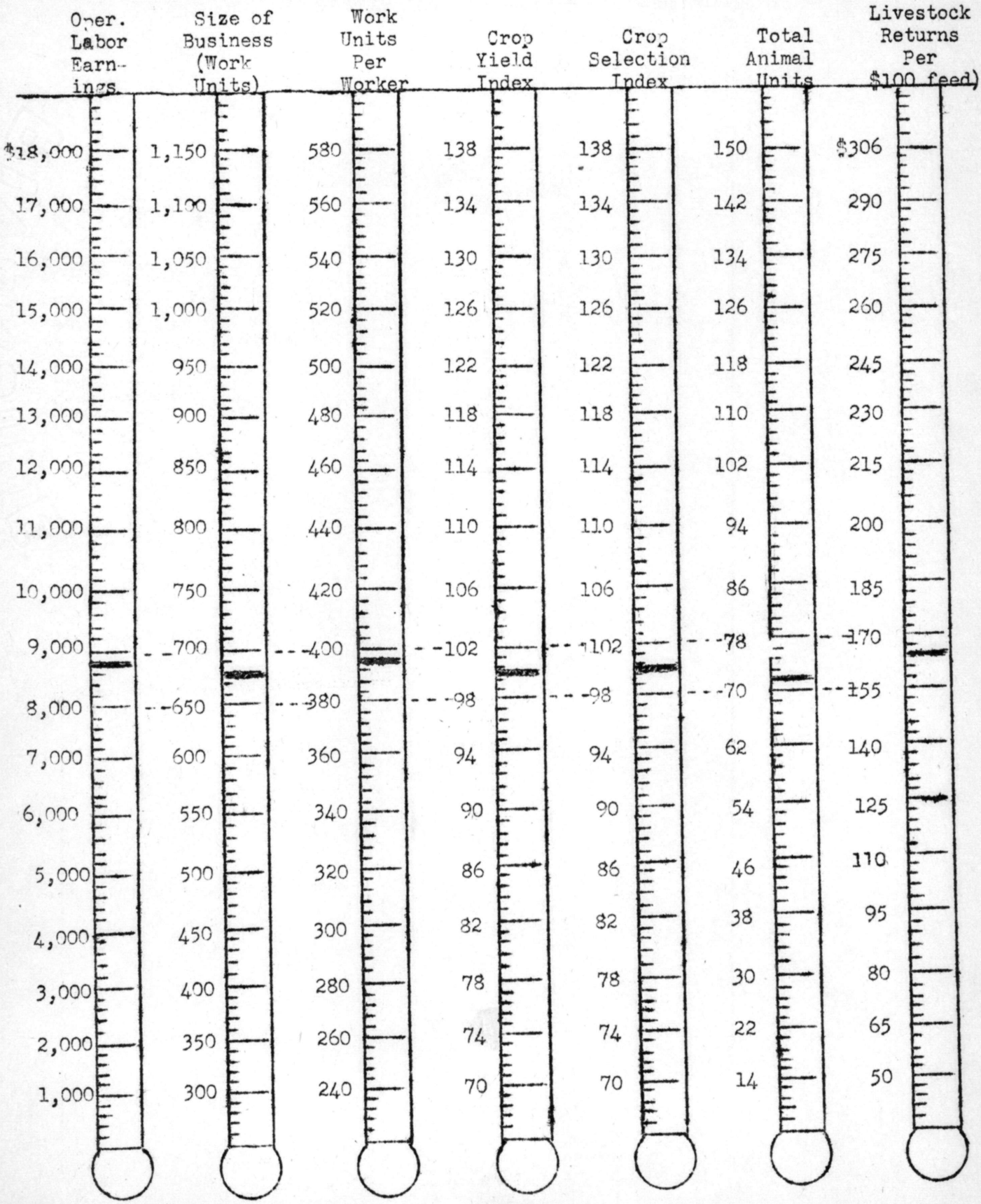
Farmers should study Table 15 on page 11, Table 16 on page 13 and the thermometer chart on page 12 to determine the weak and strong points in their farm business.

Table 15. Farm Organization and Management Efficiency Factors, 1947

Item	Your Farm	Average of 55 farms	12 most profitable farms	12 least profitable farms
Operator's Labor Earnings	$____	$ 8,721	$19,255	$ 2,100
Acres owned	____	716	871	605
Acres rented	____	437	643	383
Total operated	____	1153	1514	988
Capital Investment				
Total capital managed	$____	$42,697	$61,726	$30,144
Productive livestock	$____	$11,255	$17,243	$ 8,677
Power and machinery	$____	$ 4,729	$ 6,688	$ 3,631
Rate earned on investment	____	20.1	35.3	6.3
Size of Business				
*Work units (total)	____	676	854	591
On crops	____	349	467	266
On livestock	____	325	386	322
Off farm	____	2	1	3
Labor Utilization				
Number of workers	____	1.8	2.1	1.5
*Work units per worker	____	393	434	415
Crop acres per worker	____	264	355	181
Animal units per worker	____	40	45	40
Livestock increase per worker	____	$ 5,383	$ 7,731	$ 5,181
Crop Organization and Efficiency				
Total acres in crops	____	452	649	258
*Crop yield index	____	100	129	73
*Crop selection index	____	100	104	92
% cropland is of farm	____	44.4	49.0	34.5
% cropland in row crops	____	27.9	26.4	33.4
% cropland in small grain	____	65.3	69.1	58.1
% cropland in hay & pasture	____	3.6	4.3	5.7
Livestock Org. & Efficiency				
Number of beef cows	____	33	43	26
Number of milk cows	____	5	4	6
Number of ewes	____	28	8	57
Number of litters of pigs	____	11	15	10
Number of hens	____	139	142	157
*Total productive livestock units	____	72	94	57
*Livestock returns per $100 feed	$____	$164	$201	$128
Pounds butterfat per cow	____	192	191	181
Eggs laid per hen	____	103	102	104
Pigs saved per litter	____	5.4	5.5	5.8
Power, Mach, & Equip.				
Power invest. per crop acre	$____	$6.14	$5.26	$8.91
Crop mach. inv. per crop acre	$____	$5.26	$5.53	$6.48

*Measures used in thermometer chart on page 12.

Compare your standing in regard to the measures of farm organization and efficiency with the average for the group shown between the dotted lines. The figures from the bottom to the top of the seven efficiency bars show the range from the least efficient to the most efficient farms.



THERMOMETER CHART

Table 16. Comparative Standing of Cooperators on Individual Efficiency Factors

Oper. Labor Earnings	Acres per Farm	Power & Mach. Inv. per Crop acre	Work Units Per Worker	Crop yield index	Crop Efficiency Yields Corn bu.	Oats bu.	Barley bu.	Wheat bu.	Livestock Efficiency Return per $100 feed	B. F. per cow	Pigs weaned per litter	Eggs laid per hen	Lvstk. Increase per Man
$24,689		$22.29	710	127	26.5	69.4			$429	349		225	$11,227
23,540	2,960	20.56	631	123	26.0	60.0		32.0	410	322	8.3	182	11,183
21,654	2,560	20.07	618	120	25.7	58.3	39.4	30.3	367	310	7.7	180	10,985
21,313	2,100	18.53	607	118	24.8	57.0	30.0	27.0	349	307	7.5	176	10,350
20,906	2,000	17.81	587	116	23.0	55.0	28.0	23.0	346	296	7.4	173	8,325
18,455	1,810	17.69	559	114	22.7	53.6	26.6	22.0	302	293	7.3	162	8,264
18,249	1,760	15.25	552	113	21.5	52.6	26.0	20.8	284	265	7.2	161	7,443
16,459	1,752	14.99	526	112	20.0	50.0	25.0	20.0	264	252	7.0	160	7,213
15,397	1,720	14.70	502	111	19.1	47.7	24.3	19.0	248	235	6.6	146	6,314
14,699	1,600	14.61	489	109	18.2	45.5	24.0	18.5	235	227	6.5	134	6,718
11,313	1,520	14.30	483	108	16.7	45.0	23.9	18.0	233	221	6.4	127	6,530
10,534	1,440	13.97	476	107	16.0	43.0	23.0	17.5	199	219	6.3	125	6,276
9,769	1,431	13.00	470	106	15.4	40.0	22.7	17.0	196	211	6.2	124	6,134
9,638	1,400	12.60	466	105	15.0	37.5	22.5	16.7	190	207	6.1	115	6,037
9,138	1,358	12.34	434	104	13.6	36.2	21.6	16.4	178	206	5.9	110	5,396
9,124	1,280	12.01	421	103	13.1	35.0	20.5	16.2	174	201	5.6	108	5,656
9,055	1,168	11.72	396	102	12.9	33.7	20.0	16.0	172	198	5.5	106	5,404
AVERAGE $ 8,694	1,152	$11.40	393	100	12.5	33.4	19.1	15.8	164	192	5.4	103	$ 5,383
8,576	1,120	11.29	387	99	12.0	32.6	16.7	15.7	159	186	5.2	100	5,360
8,150	1,082	10.21	382	98	11.2	31.1	15.0	15.0	156	180	5.1	97	5,103
7,231	1,070	9.98	377	97	10.9	30.5	13.9	14.3	150	178	5.0	94	4,961
6,716	1,035	9.75	374	96	10.3	30.0	13.0	14.0	146	171	4.6	92	4,362
6,334	960	9.04	365	95	10.2	28.0	12.5	13.6	138	161	4.5	90	4,630
5,178	920	8.79	350	93	10.0	27.9	12.2	13.0	127	154	4.4	85	4,315
4,984	880	8.49	344	92	9.4	25.6	12.0	12.6	126	152	4.3	76	4,202
4,633	800	8.34	338	89	9.0	25.0	11.4	12.4	121	149	4.2	68	3,974
4,470	788	8.25	324	85	8.7	24.0	10.1	12.0	119	142	4.1	64	3,440
4,133	725	7.92	301	80	8.0	21.5	10.0	11.8	114	138	3.8	62	3,151
3,328	720	7.05	293	79	7.0	20.0	8.3	11.5	110	134	3.2	60	2,797
3,528	640	6.86	284	70	6.9	18.2	7.5	11.4	109	129	3.1	58	2,515
3,205	600	6.05	280	68	6.0	17.1	5.0	10.5	105	124	3.0	42	2,183
2,868	550	5.80	260	67	5.3	15.5	2.9	10.1	100	118	2.2	40	1,955
2,474	480	5.44	245	60	5.0	14.9		9.6	92	104	2.0	35	1,833
1,429	370	4.95	221	58	3.0	12.0		8.0	83	90	1.6	33	1,723
304	320	3.53	201	55		11.0		7.2	77	75	1.0	31	1,526

Table 17. Size of Farm Related to Earnings, Farm Organization & Efficiency Factors, 1947

Item	Under 560	640	800	960	1120	1200 & over
Operator's Labor Earnings	$ 3,641	$ 5,982	$ 8,533	$ 9,773	$ 6,555	$11,159
Number of farms	6	9	6	7	4	23
Acres owned	328	346	325	554	766	1,104
Acres rented	119	290	434	399	340	606
Total operated	447	636	759	953	1,106	1,710
Capital Investment						
Total capital managed	$22,256	$27,448	$37,545	$36,218	$28,550	$58,705
Productive livestock	$ 4,816	$ 6,379	$10,241	$ 7,388	$ 7,865	$16,884
Power and machinery	$ 3,442	$ 3,460	$ 5,095	$ 4,888	$ 4,960	$ 5,822
Rate earned on investment	14.1	20.5	22.9	26.4	15.3	19.1
Size of Business						
Work units (total)	451	440	563	635	672	870
On crops	184	230	287	347	403	447
On livestock	266	210	269	287	265	422
Off farm	1	---	7	1	4	1
Labor Utilization						
Number of workers	1.4	1.4	1.9	1.7	1.7	1.9
Work units per worker	330	332	302	398	416	469
Crop acres per worker	191	264	212	327	252	298
Animal units per worker	23.7	30.0	29	32	36	56
Livestock inc. per worker	$ 4,591	$ 5,401	$ 3,161	$ 5,407	$ 4,191	$ 6,599
Crop Organization and Efficiency						
Total acres in crops	269	347	402	501	428	542
Crop yield index	111	90	116	103	95	107
Crop selection index	100	102	102	105	109	98
% cropland is of farm	59.7	54.7	53.4	52.3	38.9	32.5
% cropland in row crops	27.6	20.5	28.8	23.6	24.5	32.5
% cropland in small grain	65.6	74.8	64.9	61.9	73.9	61.5
% cropland in hay & pasture	6.3	2.1	6.3	2.8	1.7	3.3
Livestock Org. & Efficiency						
Number of beef cows	8	17	27	22	21	50
Number of milk cows	9	3	3	4	6	7
Number of ewes	20	--	6	9	37	51
Number of litters of pigs	12	7	13	11	11	11
Number of hens	189	144	171	144	75	127
Total prod. livestock units	33	40	54	51	59	108
Livestock ret. per $100 feed	$124	$204	$ 92	$175	$134	$179
Pounds butterfat per cow	214	194	225	327	178	149
Eggs laid per hen	107	102	106	130	97	91
Pigs saved per litter	4.6	6.4	5.7	6.0	5.0	5.0
Power, Mach, & Equip.						
Power inv. per crop acre	$6.34	$4.30	$5.23	$6.82	$4.80	$7.08
Crop mach. inv. per crop acre	$6.08	$4.71	$5.60	$4.07	$5.16	$5.54

Table 18. Tenure Related to Earnings, Farm Organization and Efficiency Factors, 1947

Item	Your Farm	Tenants	Part Owners	Owners
Operator's Labor Earnings*	$____	$ 5,518	$ 8,718	$ 6,250
Number of farms	____	7	38	10
Acres owned	____	---	759	1,054
Acres rented	____	778	489	---
Total operated	____	778	1,248	1,054
Capital Investment				
Total capital owned**	$____	$13,198	$40,622	$44,044
Productive livestock	$____	$ 4,778	$12,930	$ 9,465
Power and machinery	$____	$ 4,463	$ 4,812	$ 5,327
Rate earned on investment	____	30.2	19.8	15.0
Size of Business				
Work units (total)	____	510	734	671
On crops	____	320	358	335
On livestock	____	189	374	335
Off farm	____	1	2	1
Labor Utilization				
Number of workers	____	1.6	1.7	1.9
Work units per worker	____	319	415	352
Crop acres per worker	____	306	259	251
Animal units per worker	____	18	47	34
Livestock increase per worker	$____	$ 3,608	$ 5,804	$ 5,023
Crop Organization & Efficiency				
Total acres in crops	____	473	440	479
Crop yield index	____	81	109	109
Crop selection index	____	113	102	91
% cropland is of farm	____	65.3	39.3	49.0
% cropland in row crops	____	21.4	28.5	30.1
% cropland in small grain	____	77.6	65.1	57.6
% cropland in hay & pasture	____	1.0	2.7	8.8
Livestock Org. & Efficiency				
Number of beef cows	____	13	38	28
Number of milk cows	____	3	5	6
Number of ewes	____	--	27	51
Number of litters of pigs	____	9	11	11
Number of hens	____	177	139	114
Total prod. livestock units	____	30	81	70
Livestock ret. per $100 feed	$____	$163	$165	$159
Pounds butterfat per cow	____	232	190	177
Eggs laid per hen	____	85	103	116
Pigs saved per litter	____	5.0	5.5	5.4
Power, Mach. & Equip.				
Power invest. per crop acre	$____	$6.56	$6.28	$5.33
Crop mach. inv. per crop acre	$____	$3.81	$5.42	$5.64

*Operator's labor earnings are the actual figures for these farms and have not been adjusted to a full owner basis for tenants and part-owners.

**Includes only the operator's share of farm capital owned.